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**Machine translation JP5097156U**

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(57) **Abstract**

**Objects of the Invention** PBX which has two or more line wires and extensions, respectively -- setting -- each extension -- a cordless handset -- before hearing a busy tone once dialing on the occasion of line wire dispatch of telephone, a means to check the propriety of the line wire dispatch is offered.

**Elements of the Invention** for this reason, this kind of telephone-exchange machine -- each line wire C1 at that time, and C2 the dial tone of the predetermined class determined corresponding to an operating condition and the contents of a setting of the line wire originating call control registered beforehand, respectively -- the use extension concerned -- a cordless handset -- Telephone T and T2 .... T7 It constituted so that it might have a dial tone sending-out means for sending out.

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**Utility model registration claim**

**Claim 1** the dial tone of the predetermined class determined corresponding to the operating condition of each of said line wire at that time, and the contents of a setting of the line wire originating call control registered beforehand in the main unit which has two or more telephone line wires and extensions, respectively, and has each line wire switching function, an extension to extension call, and an extension switching function about each **these** extension, respectively -- the use extension concerned -- a cordless handset -- the telephone switchboard characterized by having a dial tone sending-out means for sending out to telephone.

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**Detailed explanation of a design**

**0001**

**Industrial Application**

This design is related with a telephone switchboard, especially the propriety decision means of line wire dispatch.

**0002****Description of the Prior Art**

a conventional private-branch-exchange system (PBX) or home telephone etc. -- setting -- a certain cordless handset -- on the occasion of the line wire dispatch from telephone, there is a method of checking the existence of lighting of the line wire lamp in the main unit or the telephone plug socket section only for systems as an approach of grasping the busy condition (existence in use) of the line wire.

**0003**

Moreover, about the contents of a setting of a foreign news originating call control, it is JP,2-198297,A, for example.

As indicated by the official report etc., the method of judging the contents of a setting etc. in the figure displayed on displays, such as for example, the 7 segment LED, by actuation of each switch formed in the telephone-switchboard section is proposed.

**0004****Problem(s) to be Solved by the Device**

However, it is very troublesome, when the cordless handset which needs to go to see specially the display condition of said lamp of the main unit or the telephone plug socket section, and it is going to send, and said main unit and telephone plug socket are separated in distance in order to grasp the busy condition of a line wire if it is in the above conventional approaches. Moreover, after seeing the lamp display, while actually sending, a line wire busy condition may change in time. Moreover, about said 7 segment LED for checking the contents of a line wire originating-call-control setting, there is the same problem as the above-mentioned lamp display.

**0005**

that by which this design was made in view of the above aspects of affairs -- it is -- the line wire operating condition and the contents of a line wire originating call control at that time -- responding -- each -- it aims at offer of a means by which the propriety of that line wire dispatch can be easily checked in a cordless handset.

**0006****Means for Solving the Problem**

For this reason, it sets to the main unit which has two or more telephone line wires and extensions, respectively, and has each line wire switching function, an extension to extension call, and an extension switching function about each **these** extension in this design. the dial tone of the predetermined class determined corresponding to the operating condition of each of said line wire at that time, and the contents of a setting of the line wire originating call control registered beforehand, respectively -- the use extension concerned -- a cordless handset -- by constituting a telephone switchboard so that it may have a dial tone sending-out means for sending out to telephone It is going to attain said purpose.

**0007****Function**

the need of being able to know the busy condition of that line wire, and checking the existence of the line wire originating call control of that cordless handset with other display means before hearing a busy tone once a user dials in the cordless handset of arbitration by this above design configuration -- nothing -- line wire dispatch -- it can carry out -- very -- being efficient .

**0008****Example**

Below, this design is explained based on an example. All the system-circuit schematic diagrams of an example of the home telephone system of the conventional PBX method which can apply this design to the circuitry block diagram of one example of the telephone equipment to apply and drawing 2 are shown in this design at drawing 1 . As a premise explaining the detail of this example, the outline of all system circuits is first explained based on drawing 2 .

**0009**

C -- the 1st and 2nd two main wire C1 and C2 the line wire which it has -- it is -- the terminal of an extension -- as a cordless handset -- the 1- the 7th seven telephone T (T1 -T2) and the 1- the 3rd

three intercom D (a TV camera, D2 **D1** , and D3) is connected. 22 is equipped with the arrival-of-the-mail detector and polarity-reversals detector of a main wire in the loop-formation detector. 23 -- respectively -- each extension -- a cordless handset -- T1 -T7 A loop-formation detector and a polarity-reversals detector, and 24 are inside-and-outside (CI) relays of each extension, respectively. Moreover, as for a current-mode-logic (CML) relay and 26, 25 is **a loop-formation circuit dial pulse (DP) sender and 27/28** a push button (PB) signal sender / receiver, respectively.

**0010**

All of many of other components are well-known to this kind of equipment, and only each name is listed. 30 **namely**, -- a current-supply circuit and 31 -- a main wire / extension LED control circuit and a loudspeaker drive circuit, and 32 -- an intercom control circuit and 33 -- a sensor and 34 -- sensor I/F and an electronic speech circuit, and 35 -- CPU and 36 -- cordless handset T7 The ringer module of \*\* is shown.

Moreover, explanation of well-known general actuation is also omitted.


**0011**

the description of this design example -- the operating condition and the contents of a line wire originating call control at that time -- responding -- each -- a cordless handset -- T1 -T7 every -- \*\*, a line wire C1, and C2 the dial tone which judges the possibility of dispatch of, and an impossibility and changes with those propriety -- each -- it sends out to a cordless handset, and when a user hears it, it is in having constituted so that decision of the propriety of line wire dispatch might be attained. **line wire / C**

**0012**

That is, when dispatch of a line wire C is possible, as a dial tone, "false line wire dial tone", such as a continuation sound of 400Hz, is sent out, and, in the case of dispatch impossible, the "extension dial tone" of the intermittent tone of 0.2-second spacing is sent out for the continuation sound for 0.2 seconds by the line wire-ized busy concerned. The "line wire operating condition" at that time and the partition table of the above "a sending-out dial tone" corresponding to each case of "the contents of a line wire originating call control" are shown in Table 1.

**0013****Table 1**

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**0014**

Moreover, drawing 1 is the equipment circuit of this example, and \*\*\*\* which can be put on said drawing 2 shows a component with the same sign.

1 shows the conventional example and an example of the main unit of a telephone switchboard

which has the same basic configuration, C (C1 and C2) is the 1st and the 2nd two line wires (main wire), and 2 is an outer wall box. The main unit 1 is equipped with the protector 3, the sensor junction unit 4, and the TV intercom interface unit 5 grade. Moreover, in the security (security) unit of plurality 7 / 6 and , and 8, a panic button and 9 show a fire sensor and 10 shows a gas sensor. T1 -T7 seven extensions -- a cordless handset -- equipment -- being shown -- T1 and T2 The 1st, each 2nd security telephone, and T3 -T7 the 3rd - the 7th extension -- each -- a cordless handset - - telephone and F -- facsimile (FAX)

It comes out. each security extension -- a cordless handset -- telephone T1 and T2 \*\*\*\* -- TV intercom monitor unit 11 of others is common respectively -- each -- a cordless handset -- telephone T3 -T7 \*\*\*\* -- respectively -- with a loudspeaker -- modular 12 -- moreover, a cordless handset -- telephone T7 modular one of \*\* -- the ringer module 13 is connected to 12. on the other hand -- D1 the 1st intercom with a TV camera -- a cordless handset, D2, and D2 each 2nd and 3rd intercom -- a cordless handset is shown.

#### 0015

Next, an example of the registration approach of a line wire originating call control (system data) is explained.

#### 0016

(Order foreword) (\*\* \*\*) (table \*\*)

\*\* Each security telephone T1 and T2 Off-hook Dial tone (a two or Thu Thu Thu ....)

\*\* "8" dials After **3 second progress** extension dial tone (Thu Thu Thu Thu ....) \*\* Line wire originating-call-control code dispatch Line wire C1 1:801 Line wire C2 : 804 A setting mode sound (TSUTSUTSU) \*\* a setup -- a cordless handset -- a dial (T1 -T7) It is the "\*" dial if it is a setting sound or discharge sound \*\* setup by the cordless handset. They are "0" dials if it is discharge. \*\* On hook (setting termination)

in addition (sequence), each setup in \*\* -- a cordless handset -- when performing a dial about each cordless handset and setting up about two or more cordless handsets, it repeats returning to \*\* after \*\* (sequence) termination.

#### 0017

The contents of a line wire originating-call-control setting beforehand registered by the above and a line wire C1, and line wire C2 The operating condition is memorized to RAM of CPU35 ( drawing 2 ). and -- each -- telephone T1 -T7 of a cordless handset an appropriate dial tone **finishing / said registration by the contents of RAM of said CPU35 / if loop-formation detection is carried out** -- CPU35 -> cross point SW-> -- each -- a cordless handset -- T1 -T7 It sends out by the root.

#### 0018

##### Effect of the Device

as mentioned above -- according to **as explained** this design -- a cordless handset -- since the propriety of foreign news dispatch can be judged without the need of being able to know the busy condition of that line wire, and checking the existence of the foreign news originating call control of that cordless handset one by one before the user of telephone hears the busy tone of a line wire after a dial like before, it can use very efficiently.

### Brief Description of the Drawings

**Drawing 1** The circuitry block diagram of one example telephone equipment

**Drawing 2** The telephone-exchange machine aforementioned system-circuit schematic diagram

### Description of Notations

C (C1 and C2) Line wire (main wire)

T (T1, and T2, ..., T7) a cordless handset -- telephone

1 Main Unit

35 CPU

### Drawing 2

98 P2788

4.

Entgegenhaltung 4:

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Priorität: ohne

Anmelder: Sekisui Kagaku Kogyo K. K., Osaka, JP

Titel: Fernsprechvermittlungsanlage

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[Schutzanspruch]

1. Fernsprechvermittlungsanlage, dadurch gekennzeichnet, daß ein Hauptgerät mit mehreren Amtsleitungen und mehreren internen Leitungen, die jeweils die Funktionen zur externen Vermittlung, zur Führung von internen Gesprächen und zur internen Vermittlung aufweisen, Wähltonausgabemittel aufweist, die entsprechend dem aktuellen Besetztzustand der einzelnen Amtsleitungen und den vorab gespeicherten Beschränkungseinstellungen hinsichtlich externer Gespräche, bestimmte vorgegebene Arten von Wählönen an das betreffende Nebenstellentelefon senden.

.....

[0007]

[Wirkung]

Nach dem o. g. Aufbau der vorliegenden Neuerung kann ein Benutzer bei einem beliebigen Nebenstellentelefon den Besetztzustand der Amtsleitung kennen, bevor er das

„Besetztzeichen“ nach dem Wählen hört. Ferner braucht man bei einem Anschluß an das Netz mittels eines Nebenstellentelephons nicht durch ein weiteres Anzeigemittel festzustellen, ob der Anschluß an das Netz derzeit beschränkt ist, so daß ein äußerst effektiver Anschluß an das Netz bei der vorliegenden Neuerung möglich ist.

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4/7

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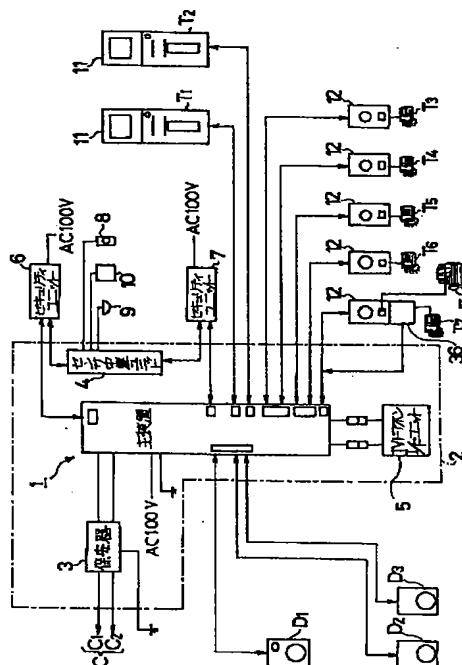
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(54)【考案の名称】 電話交換機

(57)【要約】

【目的】 それぞれ複数の外線と内線とを有するPBX等において、それぞれの内線子機電話機の外線発信に際して、いったんダイヤルした後のビジートンを聴く前にその外線発信の可否を確認する手段を提供する。

【構成】 このため、この種の電話交換器を、そのときの各外線C<sub>1</sub>、C<sub>2</sub>の使用状況と、予め登録された外線発信規制の設定内容とに対応してそれぞれ決定された所定種類のダイヤルトーンを当該使用内線子機電話機T<sub>1</sub>、T<sub>2</sub>、……T<sub>n</sub>に送出するためのダイヤルトーン送出手段を備えるよう構成した。







## 【課題を解決するための手段】

このため、この考案においては、それぞれ複数の電話外線と内線とを有し、これら各内線についてそれぞれの外線交換機能ならびに内線相互通話及び内線交換機能を有する主装置において、その時の前記各外線の使用状況と、予め登録された外線発信規制の設定内容とに対応してそれぞれ決定された所定種類のダイヤルトーンを当該使用内線子機電話機に送出するためのダイヤルトーン送出手段を備えるよう電話交換機を構成することにより、前記目的を達成しようとするものである。

## 【0007】

## 【作用】

以上のようなこの考案構成により、任意の子機において、使用者がいったんダイヤルした後のビジートーンを聴く前に、その外線のビジー状態を知ることができ、またその子機の外線発信規制の有無を他の表示手段により確認する必要なしに外線発信することができ、極めて能率的である。

## 【0008】

## 【実施例】

以下に、この考案を実施例に基づいて説明する。図1に、この考案に、係る電話装置の一実施例の回路構成ブロック図、図2に、この考案を適用し得る従来のPBX方式のホームテレホンシステムの一例の全システム回路概要図を示す。本実施例の詳細を説明する前提として、まず図2に基づいて全システム回路の概要を説明する。

## 【0009】

Cは、第1、第2の2局線 $C_1$ 、 $C_2$ を有する外線で、内線の端末子機として第1～第7の7個の電話機T( $T_1 \sim T_7$ )及び第1～第3の3個のドアホンD(TVカメラ付き $D_1$ 及び $D_2$ 、 $D_3$ )が接続されている。22はループ検出回路で局線の着信検出回路及び極性反転検出回路を備えている。23はそれぞれ各内線子機 $T_1 \sim T_7$ のループ検出回路及び極性反転検出回路、24はそれぞれ各内線の内外(CI)リレーである。また、25は電流モード論理(CML)リレー、26はループ回路ダイヤルパルス(DP)センダ、27/28は、それぞれ

ダイヤルトーン送出表

外線C使用状況		外線発信規制内容		送出ダイヤルトーン区分
外線C <sub>1</sub>	外線C <sub>2</sub>	外線C <sub>1</sub>	外線C <sub>2</sub>	
空 空 空 空 使用中 使用中 使用中 使用中	空 空 空 空 空 空 使用中 使用中	解除 設定 解除 設定 解除 設定 解除 設定 解除	解除 解除 設定 設定 解除 解除 設定 設定 解除 解除	擬似外線発信音 擬似外線発信音 擬似外線発信音 内線発信音 擬似外線発信音 擬似外線発信音 内線発信音 擬似外線発信音 内線発信音 内線発信音

## 【0014】

また、図1は、この実施例の装置回路であり、前記図2に置ける都道は構成要素は同一符号で示す。

1は、従来例と同様の基本構成を有する電話交換機の主装置の一例を示すもので、C(C<sub>1</sub>、C<sub>2</sub>)は第1、第2の2本の外線(局線)、2は外壁ボックスである。主装置1は、保安器3、センサ中継ユニット4、TVドアホンインタフェースユニット5等を備えている。また、6、7は複数のセキュリティ(保安)ユニット、8は非常ボタン、9は火災センサ、10はガスセンサを示す。T<sub>1</sub>～T<sub>7</sub>は7本の内線子機装置を示し、T<sub>1</sub>、T<sub>2</sub>は第1、第2の各セキュリティ電話機、T<sub>3</sub>～T<sub>7</sub>は第3～第7の内線各子機電話機、Fはファクシミリ(FAX)である。各セキュリティ内線子機電話機T<sub>1</sub>、T<sub>2</sub>には、それぞれTVドアホンモニタユニット11が、他の普通の各子機電話機T<sub>3</sub>～T<sub>7</sub>にはそれぞれスピーカ付モジュラ12が、また、子機電話機T<sub>7</sub>用のモジュラ12にはリンガーモジュール13が接続されている。一方、D<sub>1</sub>は第1のTVカメラ付ドアホン子機、D<sub>2</sub>、D<sub>3</sub>は第2、第3の各ドアホン子機を示す。

## 【0015】

次に、外線発信規制(システムデータ)の登録方法の一例について説明する。

## 【0016】

以上、説明したように、この考案によれば、子機電話機の利用者が従来のようにダイヤル後に外線のビジー音を聴く前にその外線のビジー状態を知ることができ、またその子機の発信規制の有無をいちいち確認する必要なしに発信の可否を判断することができるため、極めて効率的に利用し得る。